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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,817	10/02/2003	Kenneth M. Sprouse	7784-000647	9796

27572 7590 07/13/2004

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EXAMINER

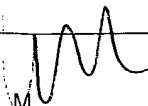
RINEHART, KENNETH

ART UNIT PAPER NUMBER

3749

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/677,817	Applicant(s) SPROUSE, KENNETH M. 	
	Examiner Kenneth B Rinehart	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/14/2004</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 7-10, 12, 13, 16, 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cox et al (6418973). Cox shows a ceramic composite panel including at least two layers of woven yarns of fibrous material (12, 14, fig. 1); and wherein the layers of fibrous material include walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (22, fig. 1), one of the at least two layers comprises a thickness of less than about 0.08 inches (col. 7, line 19), the panel further comprises alumina (col. 4, line 17), the panel further comprises silicon carbide (col. 8, line 62), carbon (col. 5, line 57), the panel further comprises an arc (72, fig. 7), a diameter of the channels varies in the warp direction (fig. 7), a ceramic composite coolant liner including at least two layers of woven yarns of fibrous material (12, 14, fig. 1) and walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (20, 22, fig. 1), a structure abutting the coolant liner for resisting a pressure developed in the vessel (col. 7, lines 6-11), resisting a pressure in the vessel with a structure (col. 7, lines 7-11), abutting the structure with a ceramic composite coolant liner which 5 includes at least two layers of woven yarns of fibrous material (12, 14, fig. 1) and walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (20, 22, fig. 1); and flowing a coolant through

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the coolant channels (col. 7, lines 20-21), limiting the thickness of one of the at least two layers to less than about 0.08 inches thick ((col. 7, line 19),

Claims 1, 3, 5, 7, 8, 9, 11, 12, 14, 16, 18, 19, 20, 22, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Holden. Holden shows a ceramic composite panel including at least two layers of woven yarns of fibrous material (26, fig. 5); and wherein the layers of fibrous material include walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (18, fig. 5), the vessel further comprises a regeneratively cooled reactor (col. 2, lines 15-27, fig. 1), the panel further comprises alumina (col. 3, line 33), the panel further comprises silicon carbide (col. 3, line 22), carbon (col. 3, line 22), the panel further comprises an arc (fig. 5), the panel abuts a metal closeout (28, 32, fig. 5), and walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (19, fig. 5), a structure abutting the coolant liner for resisting a pressure developed in the vessel (28, fig. 5), resisting a pressure in the vessel with a structure (28, fig. 5), abutting the structure with a ceramic composite coolant liner which includes at least two layers of woven yarns of fibrous material (26, fig. 5) and walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (18, fig. 1); and flowing a coolant through the coolant channels (abstract), reacting the coolant with the contents of the vessel after the coolant has flowed through the coolant channels (col. 2, lines 1-2, col. 3, lines 1-12) creating synthesis gas in the vessel (col. 3, lines 13-16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. Cox discloses a ceramic composite panel including at least two layers of woven yarns of fibrous material (12, 14, fig. 1); and wherein the layers of fibrous material include walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (22, fig. 1), a structure abutting the coolant liner for resisting a pressure developed in the vessel (col. 7, lines 6-11), the panel further comprises ... and the panel abuts a ... closeout. Cox discloses applicant's invention substantially as claimed with the exception of chromia and metal. At the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to have chromia and metal because applicant has not disclosed that the material type provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the type of material of Cox or the claimed material type because both types of materials perform the same function equally well.

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holden. Holden discloses a ceramic composite panel including at least two layers of woven yarns of fibrous material (26, fig. 5); and wherein the layers of fibrous material include walls extending between the layers, the layers and the walls defining coolant channels that extend in a warp direction (18, fig. 5), a structure abutting the coolant liner for resisting a pressure developed in the vessel (28, fig. 5). Holden discloses applicant's invention substantially as claimed with the

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exception of the fibrous material further comprises silica. At the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the fibrous material further comprises silica because applicant has not disclosed that the material type provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the type of material of Holden or the claimed material type because both types of materials perform the same function equally well.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to apparatus in general: Eriksson et al (4362500), Szetela (3954389).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 703-308-1722. The examiner can normally be reached on 7:30 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703-308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBR


KENNETH RINEHART
PRIMARY EXAMINER